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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,276	01/27/2004	Mahesh Siddappa	2906P	3466

7590 02/22/2007

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EXAMINER	
PHAN, RAYMOND NGAN	
ART UNIT	PAPER NUMBER
2111	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/766,276	SIDDAPPA, MAHESH	
	Examiner	Art Unit	
	Raymond Phan	2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5-15 and 18-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5-8,12-15,19 and 20* is/are rejected.

7)☒ Claim(s) *3,10 and 18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Part III DETAILED ACTION

Notice to Applicant(s)

1. This action is responsive to the following communications: amendment filed on November 13, 2006.

2. This application has been examined. Claims 1, 3, 5-8, 10, 12-15, 18-20 are pending.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 5-8, 12-15, 19-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chiang et al. (US No. 6,874,055) in view of Jackson (US No. 7,028,133).

In regard to claim 1, Chiang et al. disclose a method for high speed USB data routing (see figure 2), the method comprising: routing a data stream to and from USB I/O ports serially (see figure 2, col. 4, lines 1-26); and maintaining a frequency of the data stream during the routing (see col. 4, lines 27-51). But Chiang et al. do not specifically disclose the routing from a root port downstream to at least one I/O port and from one I/O port upstream to the root port. However Jackson discloses serially-connected I/O controllers (i.e. I/O router) which routing

the data from the root port 10A (i.e. host port) downstream to at least one of the I/O node 20, 30 and from one I/O node upstream to the root port (see figure 1, col. 5, lines 23-63); and providing a root port router (i.e. TEHUB) for the root port and the data port router for each I/O port, wherein each data port router delays the data stream during the routing (see figure 2, col. 33, line 58 through col. 34, line 39). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Jackson into the teachings of Chiang et al. because it would improved the bus bandwidth.

In regard to claims 5, 12, Chiang et al. disclose the step of performing the routing in a USB hub (see col. 6, lines 15-25).

In regard to claims 6, 13, Chiang et al. disclose the step of performing the routing with up to seven I/O ports (see col. 3, lines 66-67).

In regard to claims 7, 14, 19, Chiang et al. disclose wherein maintaining the frequency of the data stream during the routing further comprises maintaining the frequency at 480 MHz (i.e. high speed) (see col. 1, lines 51-53).

In regard to claim 8, Chiang et al. disclose a system for high speed USB data routing, the system comprising: a plurality of USB I/O ports 221, 241 (see figure 2, col. 4, lines 1-26); and a plurality of routers 225, 245 coupled to the plurality of USB I/O ports for routing a data stream to and from the USB I/O ports serially (see col. 4, lines 1-26) and maintaining a frequency of the data stream during the routing (see col. 4, lines 27-51).

In regard to claim 15, Chiang et al. disclose a method for high speed USB data routing, the method comprising: providing a root port router 29 for a root port (i.e. host port) of a USB hub (see figure 2, col. 4, lines 1-26); providing a data port router 225 for each I/O port 221 of the USB hub (see figure 2, col. 4, lines 1-26);

and routing data of a data stream serially between the root port router 29 and each data port router 225 without altering a frequency of the data stream (see figure 2, col. 4, lines 27-51).

In regard to claim 20, Jackson discloses a data control block for the data port router and each I/O port to control enabling of each I/O port during the routing (see col. 11, lines 12-60). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Jackson into the teachings of Chiang et al. because it would improved the bus bandwidth.

Allowable Subject Matter

6. Claims 3, 10, 18, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is an Examiner's statement of reasons for the indication of allowable subject matter: Claims 3, 10, 18, are allowable over the prior art of record because the Examiner found neither prior art cited in its entirety, nor based on the prior art, found any motivation to combine any of the said prior arts which teach routing on a two-bit wire, the two-bit wire carrying a data bit and a corresponding enable bit for each bit of the data stream (claims 3, 10, 18).

Response to Amendment

8. Applicant's amendment and arguments, see pages 2-7, filed on November 13, 2006, with respect to the rejection of claims 1, 5-8, 12-15, 19 under 35USC102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Jackson.

Conclusion

9. Claims 1, 5-8, 12-15, 19-20 are rejected. Claims 3, 10, 18. Claims 2, 9, 17 are canceled.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Raymond Phan, whose telephone number is (571) 272-3630. The examiner can normally be reached on Monday-Friday from 6:30AM- 4:00PM.

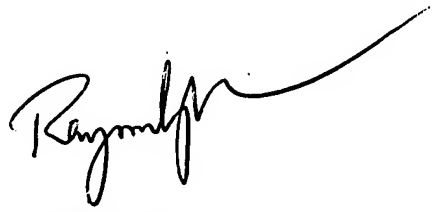
If attempts to reach the examiner by telephone are unsuccessful, the examiner's Primary, Mark Rinehart can be reached on (571) 272-3632 or via e-mail addressed to mark.rinehart@uspto.gov. The fax phone number for this Group is (571) 273-8300.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to **[raymond.phan@uspto.gov]**.

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see hop://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 central telephone number is (571) 272-2100.



Raymond Phan
February 16, 2007